## ABSTRACT OF THE DISCLOSURE

A multi-axes exercise machine for strengthening muscles surrounding shoulder joint of a user allows the user a range of motions about lines of motion perpendicular to an arc of circumduction of the shoulder joints. A pair of handholds is suspended from an arcuate guide plate, which extends above a user station. By moving the point of securing the handholds along the length of the arcuate guide plate, the user can re-position the upper ends of the handholds from a location above the user station to a position behind the user station. At all times, the axes of rotation of the handholds are parallel to each other and extend along a plane that contains the axis of circumduction of the user's shoulders. A centerline of each handhold passes through the center of the corresponding glenohumeral joint of the user during the exercise.